

Appl. No. 10/627,615
Amdt. Dated July 11, 2005
Reply to Office Action of May 9, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently Amended): A sensor array forming part of an intrusion detection system and having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the sensor array comprising:

a deformable cable;

a plurality of sensor nodes situated and spaced along the deformable cable, each sensor node having at least one discrete volumetric sensor having a detection field and at least one of the sensor nodes having at least two discrete volumetric sensors, and each sensor node having a volumetric detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node, the volumetric detection zone extending transversely to the longitudinal direction of the deformable cable at the sensor node, at least one of the sensor nodes having at least two volumetric sensors; and

an array processor a plurality of array node processors, each corresponding to one of the plurality of sensor nodes and situated thereat, coupled to each sensor node for generating information based on processing of the response generated from the detection zone of each sensor node the constituent sensors.

2. (Cancelled):

3. (Cancelled):

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4. (Previously Amended): The sensor array according to claim 1, wherein each discrete volumetric sensor is selected from at least one member of the group consisting of: microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.
5. (Currently Amended): The sensor array according to claim 1, wherein the sensor array includes a distribution point for connecting a means for providing power, the distribution point being coupled to the array node processor ~~and of~~ each sensor node.
6. (Currently Amended): The sensor array according to claim 1, wherein each sensor node is encased within and spaced ~~along~~ along the deformable cable.
7. (Currently Amended): The sensor array according to claim 1, wherein the sensor array is encased within an ~~elongated~~ elongate housing.
8. (Previously Amended): The sensor array according to claim 1, wherein each sensor node is formed as an integrated circuit.
9. (Previously Amended): The sensor array according to claim 1, wherein at least two of the detection zones overlap.
10. (Previously Amended): The sensor array according to claim 1, wherein at least two of the detection zones abut.
11. (Cancelled):
12. (Previously Amended): The sensor array according to claim 1, wherein adjacent sensor nodes of the plurality of sensor nodes are spaced apart along the sensor array, and

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wherein the space between adjacent sensor nodes has a predetermined range based upon a span of each detection zone.

13. (Previously Amended): The sensor array according to claim 1, wherein adjacent sensor nodes of the plurality of sensor nodes are spaced apart along the sensor array, and wherein the space between adjacent sensor nodes has a predetermined range based upon a distance to be detected.

14. (Previously Amended): The sensor array according to claim 1, wherein adjacent sensor nodes of the plurality of sensor nodes are spaced apart along the sensor array, and wherein the space between adjacent sensor nodes has a range of 0.25-20.0 meters.

15. (Currently Amended): A sensor array forming part of an intrusion detection system and having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the sensor array comprising:

(i) a deformable cable;

(ii) a plurality of sensor nodes each sensor node having at least one volumetric sensor and having a detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node, at least one of the sensor nodes having at least two volumetric sensors situated and spaced along the deformable cable, each sensor node having at least one volumetric sensor having a detection field and at least one of the sensor nodes having at least two discrete volumetric sensors, each sensor node having a volumetric detection zone defined by the detection fields of its constituent sensors as constructed and arranged in each sensor node, the volumetric detection zone extending transversely to the longitudinal direction of the deformable cable at the sensor node,

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and each sensor node having a node processor situated thereat for generating an alarm disturbance signature based on the response generated by each volumetric sensor of the sensor node, the node processor being coupled to each volumetric sensor; and
(ii)(iii) an array processor for generating information based on the alarm disturbance signature received from each node processor, the array processor being coupled to the node processor of each sensor node.

16. (Cancelled):

17. (Previously Amended): The sensor array according to claim 15, wherein each discrete volumetric sensor is selected from at least one member of the group consisting of: microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.

18. (Currently Amended): An intrusion detection system comprising:

(I) at least one sensor array having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the system having:

(i) a deformable cable;

(ii) a plurality of sensor nodes each sensor node having at least one volumetric sensor and having a detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node node, at least one of the sensor nodes having at least two volumetric sensors situated and spaced along the deformable cable, each sensor node having at least one discrete volumetric sensor having a detection field and at least one of the sensor nodes having at least two volumetric sensors, each sensor node having a volumetric detection zone

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defined by the detection fields of its constituent sensors as constructed and arranged in each sensor node, the volumetric detection zone extending transversely to the longitudinal direction of the deformable cable at the sensor node, and each sensor node having a node processor situated thereat for generating an alarm disturbance signature based on the response generated each volumetric sensor of the sensor node, the node processor being coupled to each volumetric sensor; and
(ii)(iii) an array processor for generating information based on the alarm disturbance signature received from each node processor, the array processor being coupled to the node processor of each sensor node;
(II) a calibration means for adjusting the sensitivity setting of each discrete sensor; and
(III) a ~~system-processor~~ controller for processing the information received from the array processor and for generating an alarm condition;
wherein the calibrating system is coupled to the system controller, and wherein the system controller is coupled to each sensor array.

19. (Cancelled):

20. (Previously Amended): An intrusion detection system according to claim 18, wherein each discrete volumetric sensor is selected from at least one member of the group consisting of microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.

21. (Previously Added): The sensor array according to claim 1, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

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22. (Previously Added): The sensor array according to claim 15, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

23. (Previously Added): The intrusion detection system according to claim 18, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

24. (Previously Added): The sensor array according to claim 1, wherein at least one of the sensor nodes has a discrete non-volumetric sensor.

25. (Previously Added): The sensor array according to claim 15, wherein at least one of the sensor nodes has a discrete non-volumetric sensor.

26. (Currently Amended): The sensor array according to claim 18, wherein at least one of the sensor nodes ~~having~~ has a discrete non-volumetric sensor.